1: Hollis G-5 (ca. 1894-1904) 1905
FL12 Masai FL12

oito, nëän 'ñgonyo pe etum áitírie inne-wëji netigile.

Neiyólōu sii 'l-abaak aategelem araki áidoñgo 'l-oiñgok, oo 'l-merigeshi, oo 'l-oroi. Ore ten egelem il-oiñgok, negor te-'n-gäne ol-gos, pe etum aatañgor ten eitashe e-ñgony, amu ējo teni meñgor, neijēyu 'sapo.

a ligature round the limb and amputate it.

The surgeons are also able to castrate bulls, rams, and he-goats by either removing or crushing the testicles. When bulls are castrated, a cord is fastened tightly round their necks and blood is extracted from the jugular veins to prevent inflammation of the injured parts[1].

Il-deketa loo-'l-Maasae. — Masai curses.

Ol-akaishopo en-napyak! }
Mikinjopo en-napyak! }
Mikinjírie eng-Aí!
Mikinosa ol-ōwaru!
Injirtita!
Imḃusu!

May you be clothed with an incurable disease!
May God trouble you!
May a beast of prey devour you!
Slip on the road and fall!
May you become the colour of a corpse!

Mikinjoo eng-Aí en-dap e-'n-jōni!

May God give you a palm of leather! (i.e. may your cattle die, in which case you will be forced to do manual labour.)

Tanañga náisula!

Die with those who have been conquered!

Todoroi!
Tanañga añgata!
Mikitaara 'l-kulinyi!

Die when the sun sets!
Die in the plain!
May your own people kill you!

Ten edek il-Maasae 'n-gera, nemedek naleñg, aajo:

When the Masai curse children, they do not call them very bad names. They say, for instance:

E-soit!
En-gumoto!

Stone!
Pit!

En-gitorojata oo-'l-Maasae. — Masai form of oath.

Ten ējo ol-lee oo-'l-Maasae en-dōki, pe ēji el-lejare, ore

If a Masai man says something, and it is believed to be a lie, it is

[1] A description of the operation was given in *The Veterinarian* (Stordy), October, 1900.

An important factor in the tribal system of the Masai is the presence of medicine-men whose duties are in general connected with the divination of future events, with the administration of drugs, and with the practice of witchcraft. There appear to be three grades of medicine-men, whose spheres of influence are divided into these three categories, but, for practical purposes, it is only necessary to consider the position of the first grade, represented by the person of the Laibon, or "Ol-oiboni," who is the Chief Medicine-Man of the tribe. The history of the Laibons is recorded in Mr. Hollis' book on the Masai, pp. 324–330, and it is unnecessary to enter into it here, but it may be mentioned that Mbatian, who died about 1890, and Lenana, his son and successor, acquired such great influence over all sections of the Masai that the position of Laibon came to be regarded by certain of the European officers who had not carefully investigated the facts of the case, as synonymous with that of a paramount chief. It does not appear, however, that the Laibons have ever attempted to assume a position resembling that of kings of native tribes, and the appointment by Government of Lenana, and, at his death, of his son Seggi, to the office of Paramount Chief of the Masai was, in fact, the result of a misunderstanding of the normal state of affairs which steps have now been taken to rectify.

The medicine-men. [791]

The Laibon.

The prowess displayed by the pastoral Masai "Muran" in raids on surrounding tribes combined with their ceaseless activity in following this pursuit made their name dreaded throughout East Africa and hindered for many years the passage of caravans by the direct route from Uganda to the Coast. When eventually Europeans penetrated the highlands of British East Africa, they found the Masai with their flocks and herds scattered over a wide area. The story of how they were eventually concentrated in one reserve is told in Chapter III., but it is necessary to draw attention here to the effect which this concentration, combined with the introduction of veterinary skill and the cessation of raiding by and against them, had on the Masai. In 1904, before any administrative limit had been placed on the movements of the tribe, it was estimated that the Masai possessed 50,000 head of cattle. In 1911, 80,000 head were said to be in the Northern Reserve alone, and this estimate was subsequently increased to 200,000 when the mobs which were attempting to move south had been more thoroughly examined. 50,000 head of cattle moved south in 1911, but in the final move from Laikipia in 1912 and 1913, nearly 200,000 head were counted. By March 1914, all the Masai herds being located in one reserve, the total estimate for the tribe had leaped up to 600,000 and the number of cattle in the possession of the Masai is now supposed to be in the neighbourhood of three-quarters of a million. These latter figures are the estimates of Mr. R. W. Hemsted, who has been the Officer-in-Charge of the Masai Reserve for more than five years, and, in spite of the objection taken by the Masai on superstitious grounds to the counting of their stock, they must be taken to be substantially accurate. It is scarcely reasonable to suppose that the earlier figures, particularly the first two mentioned, are in any way so exact, but, after allowances have been made for this, it is obvious that an enormous increase in stock has taken place. In addition to this cattle, the Masai are said to possess something over two million sheep and ten thousand donkeys. The stock-carrying capacity of the 14,600 square miles included within the borders of the Masai Reserve, is limited to a certain extent by the aversion shown by the natives to grazing cattle in areas which from past experience they believe to be infected by disease, and, in parts of the Reserve, land which appears to be admirably suited for stock remains untenanted on that account, no attempt having been made to utilize veterinary skill and treatment in rendering their cattle immune from the disease. With the exception of these areas, the Reserve may fairly be said to be stocked to its fullest capacity, and the Masai, who number all told about 43,000 souls, possess capital to an average amount of rather more than £110 per head. They are thus, in all probability, the richest uncivilised tribe in the world. It is not surprising, therefore, considering their conception of manual labour as degrading, the limitations of their personal requirements and their immense wealth in livestock, to find that they are unwilling to work for wages as do the members of other tribes. Their national diet is meat and milk, both of which they have in plenty, and they can procure any other food or commodity they desire by sale or barter of stock.

The Masai as a stockman. [233] [921] [648]* [232]● [131] [161] [434] [971] [961]

181 464 561 Employment of the "Muran."

More particularly does this argument apply to the "Muran" who are of the ages at which the members of agricultural tribes are expected to work. No suitable employment has as yet been found for them as a body, though a small number have been known to reside as herds on the farms of sympathetic European stock-owners who are willing to pay a high wage for a modicum of service and who will not insist on their performance of any uncongenial labour. A very few also have proved efficient in the Police Force and K.A.R., while numbers of them, employed in the capacity of native levies have frequently proved of assistance in punitive expeditions against other tribes,* but for the majority, all attempts to find a suitable form of employment have failed, and they continue to lead their idle life in the Reserve, where their attitude is one of conceited conservatism combined with opulent apathy. The discipline formerly necessary to their existance as a fighting race is rapidly falling into disuse, and the good qualities they once possessed are fast deteriorating. Many of them have confessed to a feeling of boredom with their idle life but few have had the moral courage to change it for one of labour. This manner of existance is having a disastrous effect both physically and mentally on the Masai as a tribe, and it is stated that the average height of the "Muran" has decreased by three or four inches during the last fifteen years.

181 232 233 197 Masai conservatism respecting cattle.

It has been said that the Masai Reserve is already, with certain reservations, stocked to its fullest capacity. Mr. Hemsted has estimated the natural increase in cattle at 15 per cent. or approximately 100,000 per head per annum. It follows therefore, that a similar number must be disposed of or perish annually; but this is an argument which does not appeal to the Masai. They have not only shown a marked reluctance to sell their stock, but they have made no serious attempt to accept the assistance of science in improving the grazing conditions of their country, and, being satisfied as a result of the few experiments they have made that the class of stock they possess—a small, degenerate, in-bred animal—is best suited to withstand the arduous conditions prevailing in the Reserve, they are unwilling to permit a cross-breeding with pure-bred or grade stock which might materially increase the value of their herds in the world's markets, and which would, by the introduction of fresh blood, obviate the ill-effects of in-breeding which has been rendered necessary by the cessation of raids. The wealth of the Masai, therefore, is turned to no good purpose; their style of living does not change; they are still content to live in low buildings constructed of poles, grass and mud, in conditions of filth that defy description; and, although an improvement has been noticeable in recent years, they have shown no great desire to utilize their wealth in the purchase of imported articles and in the improvement of their diet.

623 561 Councils of Elders.

Another aspect of the character of the Masai "Muran" which deserves consideration is the disregard which they evince for the authority of their own native administration as represented by the Councils of Elders. These Councils exist according to native custom, but have never been in the past, nor are they now, efficient to enforce the decisions they may give in respect of the young warriors.

[674] Crime in the Masai Reserve.

It may be said that serious crime in the Masai Reserve is rare, and that there are not more than three or four cases on record, since European administration was established, when the attitude of the "Muran" gave cause for anxiety and in no one of these cases did a disturbance of such magnitude occur as to render necessary a recourse to armed force to quell it. Politically, the Masai have remained loyal to the British Government since they first encountered it, and except for isolated instances where certain sections attempted to help the allied cause and to increase their herds by the despatch of raiding expeditions against German territory, their conduct throughout the trying period when the war in East Africa was on their borders was exemplary. Nevertheless, a catalogue of the misdeeds of the Masai will show a not inconsiderable number of instances

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* The Masai have rendered assistance in the capacity of native levies on the following occasions:—

(1) Nandi Expedition, 1899. 40 Muran.
(2) Nandi Expedition, 1900. 400 Muran.
(3) Maruka Patrol, 1902. 300 Muran.
(4) Tetu Operations, 1902-03. 300 Muran.
(5) Irissi Patrol. 490 Muran.
(6) Kabwaren Patrol, 1904. 100 Masai and Nandi.
(7) Sotik Expedition, 1905. 400 Muran.
(8) Kisii Patrol, 1905.
(9) Nandi Expedition, 1905-06. 600 Muran.
(10) Present Turkana operations.

Reports on the work of these levies have on the whole been highly satisfactory, except in the present Turkana operations where it is doubtful if the pastoral Masai have been used, and in the Kabwaren patrol, where it was found that the Masai spearmen were of little use against the Nandi in forest country.

permitted to take their cattle to the Kinangop Reserve, but, although the Masai living in the Loita Plains were informed that they themselves might go to Kinangop, they were forbidden to take their cattle with them for fear of infecting, with East Coast fever, the stock belonging to the European farmers through whose lands they would have to pass, and of carrying this disease to the Northern Reserve. 648* 31 166 561

By December, the Northern Masai, with 10,000 cattle but unaccompanied by their principal chiefs, Masikondi and Legalishu, had moved to Kinangop, but the ceremonies were commenced prematurely, for Lenana, on hearing that the Southern Purko might not take their cattle with them, withheld his sanction, which is necessary, according to the custom of the tribe, before a start can be made. On January 14th, 1910, he sent orders to Kinangop for the warriors to proceed with their cattle to the Southern Reserve in order to hold the ceremony at Ngong. At the same time he appealed to the Governor and pointed out that, unless his authority were recognized and his instructions obeyed, he feared a disruption between the two sections of the tribe.

On February 2nd, Sir Percy Girouard held a meeting at Nairobi, at which were present Lenana and those elders of the Northern Reserve that were taking part in the ceremony on Kinangop. Lenana made a direct appeal to the Governor, and stated that the condition of affairs which had arisen since the last E-Unoto ceremony, whereby free inter-communication between the two sections of the tribe had become impossible, was gradually but surely disintegrating his authority, a matter of great regret both to himself and to his people. It was, he explained, an unheard of thing that there should be two ceremonies for one section of the tribe, one on Kinangop and the other at Ngong, and, since the Southern Masai were forbidden to take their cattle to Kinangop, he desired the Northern Masai to proceed to Ngong to hold the cermony there. He further stated that it was his most earnest wish that all the Northern Masai should move from Laikipia and inhabit the proposed extended Southern Reserve. The Governor informed Lenana that he could not sanction the move of all the Masai without consulting Masikondi and Legalishu, but, as regards the ceremony, he was quite willing that it should be held at Ngong if that was Lenana's wish and if he could arrange matters with the people concerned. The Masai elders then proceeded to Lenana's kraal to discuss the matter with him there, with the result that they returned to Kinangop, and, having collected their cattle, proceeded with the warriors to the Southern Reserve. It was, fortunately, unnecessary for the Government actively to intervene in support of the Laibon.

Meeting at Kiserian.

On February 24th, 1910, a second meeting was held at a camp known as Kiserian, close to Lenana's kraal near Ngong, with the Masai. At this meeting there were present, besides Lenana, Masikondi and Legalishu, respectively the senior elder and the spokesman of the senior warriors (who are generally referred to as the two chiefs) of the Northern Masai. These two representatives of the Northern Reserve not only agreed to the suggested move but expressed themselves in favour of it. It was accordingly proposed to carry it out as soon after the rains had commenced as practicable. 648* 31 166

The preliminary move.

Mr. Collyer, the District Commissioner of the Northern Reserve, was appointed Special Commissioner for the move, and, as several Provinces and interests were affected, he was directed to correspond with the Secretary for Native Affairs, who was to arrange the details, and submit recommendations for the displacement of the white settlers from the Southern Uaso Nyiro.

Everything went well. The majority of settlers were public spirited enough to consent to the Masai passing over their farms, and four separate routes were arranged. Special officers were deputed to accompany the mobs of cattle and a survey was commenced on Laikipia for farms to which the settlers from the Southern Uaso Nyiro might proceed.

In April, gastro-enteritis, which for some time past had been prevalent all along the line from Naivasha to Kisumu as well as in the northern Masai Reserve, broke out among the Masai herds in epidemic form. It is possible that this had [232]

*G48
311
166
[282]

something to do with the readiness of the Masai to move, for their methods of quarantine are to quit foul ground and drive their herds on to fresh pastures. Be that as it may, the Masai started towards the middle of April of their own accord, and before the Government was really ready, those from the extreme north of the reserve pressing south, and those on the southern boundaries leaving the reserve by the routes that had been arranged. The drought may have expedited their movements, for no rain had fallen in the Northern Masai Reserve whilst there had been a plentiful quantity on the Loita Plains, on Mau, and near the railway.

The Move Suspended.

On April 20th, 1910, a telegram was received from the Secretary of State ordering the move to be suspended and before the end of the month, steps had to be taken to send the Masai back to their reserve. The Secretary of State's telegram was followed by a despatch, dated April 22nd, 1910, intimating that, inasmuch as the agreement signed in 1904 was solemn and binding, it could not be cancelled without the clearest proof that the proposed agreement was in accordance with the wishes of the Masai and especially of the northern section. A document must be procured of equal formality with that of 1904 and must be signed by an equally representative body of Masai. Owing to the severe form which the cattle disease had taken, it is probable that the move could not have been undertaken in any case for fear of infecting the stock on European farms and in the Loita Plains, and this was made the excuse for the postponement. But the Masai were neither willing nor, indeed, able to remain in their reserve, for there was very little grazing owing to the drought and the ground was foul; and before many weeks were past, between twenty and thirty thousand cattle had been driven across the Northern Uaso Nyiro. Permission was afterwards granted to the Masai to occupy the 200 square miles between the Rivers Nyiro and Nanyokye.

The Meeting of May 30, 1910.

On May 30th another meeting was held at Ngong, and a provisional agreement was entered into between the Governor and the Masai, according to the terms of which the tribesmen, being satisfied that it was to their best interests that the Masai people should inhabit one area, and not be divided into two sections, as must arise under the treaty of 1904, agreed to move from Laikipia to the Loita Plains, when the Governor should notify them. There were present, as representatives of the Masai, Lenana, Masikondi, and Legalishu, Saburi (whose position in the Southern Reserve was analogous to Masikondi's in the Northern Reserve), the heads of clans, *i.e.*, the principal elders, of the Northern Reserve, and the spokesmen of the senior, the junior, and the coming age-groups of warriors. The Governor was supported by Messrs. Hobley and Lane, Provincial Commissioners, Mr. Combe, Crown Advocate, Mr. Hollis, Secretary for Native Affairs, and Mr. Collyer, the District Commissioner of the Northern Reserve. The Rev. Dr. Scott was also present as an independent witness. The agreement, which was entered into by the Masai of their own free will, was translated and fully explained to them. There was, however, one dissentient voice, and, during the discussion which preceded the signing of the agreement, Legalishu said he did not consider the new area large enough. The Governor informed the Masai that the move, if it was to take place at all, must be a voluntary one, and he asked Lenana, Masikondi, and Legalishu to depute representatives to visit the country with Mr. Collyer. He further promised the Masai that, if they did not wish to move, they need not do so, and that if they did move, and the area was found to be too small, the country across the Mara River towards Kisii would be included in their territory. Before a final agreement could be entered into, the return of the party that would go and inspect the land would be awaited, and their report considered.

Mr. Collyer's visit to the Loita country.

Mr. Collyer spent two months in the Loita Plains, on Mau, and Ngatet, and in the Il-Melili country. The two men from the Northern Reserve who accompanied the party were both nominated by Legalishu, and, when they returned to Laikipia in August, they reported that the proposed area was too small, that there was an insufficiency of water, and that the Sotik would steal their cattle. This report was accepted by the chiefs and elders of the northern section, and a large gathering, led by Masikondi and Legalishu, met at Rumuruti, on August 27th, 1910, to

It is possible that much of the mortality attributed to East Coast fever is really the result of a disease known as heart water, which is described as a tick-borne disease, very similar to East Coast fever. There is as yet no evidence to support this idea. [Heart water] G48* 231

East Coast fever appears to be the only cattle disease which the Masai really fear, and is, in fact, the disease which causes by far the highest mortality among their herds. Nevertheless, they have not come forward very readily to make use of the cattle dip which was erected at Ngong in 1914, and it is evident that, in addition to the superstition which prevents them from taking advantage of such an innovation, they are also too slack and listless to go to the trouble of making the treatment a matter of regular routine. In time, however, it is to be hoped that they will come to appreciate more fully the immunity which dipping confers upon their stock, and, when this realisation has been arrived at, it will follow that large tracts of otherwise suitable grazing areas will become available within their reserve for them and their stock, thus tending to relieve the congestion which is now noticeable in those parts of the reserve which are considered by the Masai to be suitable for their cattle. [Dipping] [181]

(E) Foot and Mouth Disease.

Foot and mouth disease has not given serious cause for anxiety in the Masai Reserve. An outbreak was reported in June, 1917; and in February, 1918, it was said to be very prevalent in the majority of the villages situated in the Narok and Mara districts. Accordingly, in that month, the Chief Veterinary Officer prohibited the removal of sheep from the reserve.

The direct mortality from this disease is slight, but it very seriously affects the milk supply, and indirectly it causes a certain amount of loss, as infected animals, being in a weak state, are unable to move about sufficiently to obtain the necessary and adequate grazing, and, as a consequence, they may die of starvation.

The disease was reported in May, 1918, to have practically died out.

(F) Rinderpest.

Rinderpest has been enzootic in the Masai Reserve for many years and the majority of adult Masai cattle are immune. It was rife in the Northern Masai Reserve from 1910 until the completion of the move in 1913, and several outbreaks in both the Northern and Southern Reserves were reported between November, 1912, and January, 1913.

Anti-rinderpest inoculation was carried out where practicable and a large number of Masai cattle were thereby protected, with the result that the mortality was very low.

For the next five years rinderpest lay more or less dormant, but it became unusually prevalent early in 1918, and heavy mortality ensued among the calves, of which it was estimated that about fifty per cent. of the annual increase succumbed.

The Masai have proved to be opposed to the treatment of their cattle by inoculation against rinderpest, as they prefer that immunity shall be obtained by the natural process of the survival of the fittest. [324] [171]

(G) Tsetse Fly.

During the tour undertaken in October, 1911, by the Director of Agriculture, accompanied by Messrs. Hill and Chaplin, the Director of Public Works and the District Commissioner, South Kavirondo, no signs of tsetse fly were seen along the route traversed, and the cattle met with did not appear to be troubled by the ordinary biting fly. On a previous visit the Director of Agriculture had noticed a number of "Stymoxys," and he stated that this fly was fairly common all over the Protectorate, but that so far as was known it did not carry any cattle disease. Tours by the Director of Agriculture.

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In June, 1911, the Provincial Commissioner, Naivasha (Mr. Lane), remarked that no tribes in the Naivasha Province with the exception of the Masai and the Uasin Gishu Masai were in a position to pay an increased hut tax. Mr. Lane would very much like to see a cattle tax imposed on the Masai instead of a hut tax.

On the 21st of March, 1912, a circular was addressed to Provincial Commissioners asking for their views on the possibility of increasing the direct taxation of natives in any part of the Protectorate.

Mr. McMillan, then Provincial Commissioner, Naivasha, replied that the Masai were increasing rapidly richer owing to the enormous increase in their stock, which increase was largely due to veterinary advice coupled with the privilege of free trade. He stated that the increase per annum in Masai cattle was now 50 per cent. greater than in years past. The Masai could certainly stand a large increase in their taxes, and he advocated the imposition of a heavier tax as being only a fair demand in return for the immense assistance they had received from the scientific knowledge placed at their disposal by the Government.

Mr. Ainsworth considered that pastoral tribes in reserves should be subject to either a cattle tax, or a grazing tax, or a cattle house tax. If a cattle tax, he suggested collection at the rate of one rupee per cow per annum, fifty cents per bull or ox, and six cents per sheep or goat; if a grazing tax, one rupee per five cows; and, if a cattle house tax, eighty cents per head of full grown stock per annum (sheep and goats not being taxed), together with a tax of Rs. 3 on each House living in huts over and above an allowance of two Huts per 50 head of stock. He quoted the case of the Uasin Gishu Masai who had about 20,000 head of big stock in North Kavirondo district, whose population was about 3,000 souls and who paid taxes in all amounting to Rs. 2,400 only. He considered the Masai in the Masai Reserve to be a glaring instance of the necessity of a revised form of taxation in connection with pastoral tribes.

Mr. Tate considered that a native livestock tax was justifiable because (1) the enormous herds in the hands of pastoralists was largely the result of the Pax Britannica, brought about by the expenditure of money on the part of the Home Government; and (2) costly experiments had been and were still being made for the benefit of stockowners in the Protectorate, part of the cost of which it was only fair to ask the native stockowners to reimburse since they profited enormously by the results of these experiments. He considered that a tax of one per cent. per annum on all stock was the simplest and would be readily understood by the natives.

Mr. Hollis was in favour of the imposition of a stock tax on the Masai. He mentioned that there was nothing in the system of taxation then in force which affected the stockowners, who were the wealthiest natives in the Protectorate. There were numbers of persons belonging to the pastoral tribes on whom the incidence of the hut tax did not fall fairly, for, though they often possessed many thousands of pounds worth of cattle and occupied vast areas of grazing land, they inhabited only one or two huts and paid accordingly.

In February, 1913, Mr. Hemsted represented that the present form of taxation on the Masai was unsatisfactory and inadequate but he put forward certain objections to the imposition of a cattle tax. Such a tax would be difficult to assess, as the same owners usually kept their cattle in different villages; it would create a great deal of dissatisfaction, as all natives disliked having their cattle counted; the revenue accruing would be subject to large fluctuations; and it seemed hardly fair to impose such a tax only on the Masai.

He would prefer to see the introduction of a poll tax of Rs. 10 on each adult male, together with a further tax of Rs. 10 to be utilised in improvements directly benefiting the Masai. Such a tax would be easier to collect and would tend to check the unauthorised movement of Masai. It would bring in some £2,000 or £3,000 annually.

[30037] 11a

is to hoped, in time, as also the conditions in the Maori Reserve as to render their cattle immune to East Coast fever, good steps are now being taken to establish a branch veterinary laboratory at Ruatoki where a more thorough investigation will be made into the characteristics and peculiarities of the diseases to which Maori cattle are subject.

One of the difficulties which will have to be met, after the requisite staff has been obtained, is, again, the conservatism of the Maori. They consider the stock they now possess to be better suited to the reserve than any other, and they prefer to breed immunity to disease by letting a disease run its course rather than by procuring immunity through treatment or the application of veterinary science. It will require perpetual perseverance to ensure the performance of a continuous treatment of cattle such as dipping, the Maori themselves being too lazy and loth to possess the keenness necessary to help themselves in the matter, and an attitude of passive resistance to all that, from past experience, can be expected of them. In spite of such difficulties, however, it is possible to hope for an improvement in the stock conditions of the reserve which will eventually enable not only certain selected areas to be utilized, but will also render the Maori reserve less of a danger to the stock industry of the Peninsula.

A great deal can still be done in improving the watering and grazing properties of the area. The reserve is on the whole by no means badly supplied with springs and creeks, but many of these are practically useless for watering large herds of cattle owing to their inaccessibility or to the unsatisfactory nature of the approaches to them. Numerous inaccessible rush down a hill-side to disappear into the ground within a few yards of the foot of the hill, and small springs become so trampled that it is impossible for cattle to drink at them. The ground becomes swampy, the supply of water gradually decreases, and at times the spring becomes extinct.

A peculiar feature of the Maori Reserve is that the large rivers flow within a few miles of each other, frequently through dense bush or forest country where there is no grass available for cattle and their usefulness is thus materially impaired. The Umu Ruku, Umu Kanuka, Hiwahiwa and other considerable streams that rise together on the Hoe and flow through forest glades practically parallel to each other until they eventually meet and thence flow through a deep gorge. But the western portion of the reserve possesses this advantage: all the large rivers here have their sources at a considerable altitude of from seven to nine thousand feet, and it would be an engineering feat of no great difficulty to conduct water from these rivers into the low-lying grazing areas at the foot of the hills, some two thousand feet below. This project has been much under discussion and may be expected to materialize, in common with other development schemes, when funds and staff are available. The dams which have been erected across certain of the streams have not proved the success it was hoped, as they are liable to damage by floods and are continually requiring labour and expenditure for repairs, but the possibilities of pipe-lines and troughs seems to offer every prospect of a solution of the difficult problem of conducting the numerous grazing areas in the Lake Plains capable of being utilized at all times of the year to carry as much stock as their acreage will hold. There is no doubt that when these water-works have been constructed any shortage of grazing for the amount of stock now in the reserve will have ceased to exist.

As a direct result of these disabilities of disease and shortage of water and grazing the Maori have maintained that the kind of cattle they possess is better suited to the conditions encountered in the reserve than any imported grade stock. In this matter also their conservatism comes into play, but it is probable that, in this case, their contention is supported by fact. A pure-bred bull was recently purchased for use with the Maori cows in an attempt to procure a better and more marketable kind of stock, but this animal died before sufficient evidence had been obtained to prove or disprove the Maori contentions, and the problem has still to be dealt with. The Maori cattle are undersized and ill-bred, and present in their existing state no prospect of becoming of value to the outside market. The potential asset to the Peninsula represented by a capital of 713,000 head of cattle, with an annual increase of about 60,000 head, is thus wasted, and the most

11: Leakey E-5 (no date) 1930 FL12 Masai FL12
Kenya

Protecting Lost Cattle and Sheep.—If during the day cattle or sheep stray and cannot be found before nightfall, the following interesting ceremony is performed. There are certain men and women (they are not necessarily anything to do with medicine men or witch doctors), who have the power to protect straying cattle, and as soon as a herdsman discovers that some of his animals are lost and cannot be found before dark, he sends with all haste to one of these individuals. If possible the messenger should be a small boy, and he takes with him the staff that the herdsman of the lost cattle was carrying at the time. This staff is handed over to the person who is to perform the protecting ceremony, which is as follows:—The staff is taken and tied up with a leather thong removed from the "Protector's" waist, and is then placed at the head of the "Protector's" bed until the following morning. As an alternative, if there is no staff available, a cinder is taken from the fire and is placed in a cooking pot, the mouth of which is then covered with a skin dress belonging to the "Protector," and the skin dress tied down with the leather thong. In either case, while the tying is being done certain fixed formulæ are uttered by the "Protector." These may be translated as follows: "I tie the hyena's mouth," "I tie the lion's mouth," "I tie the leopard's mouth," "I blind the thief's eyes," etc. Once this ceremony is performed the lost animals are considered safe from all dangerous animals and from thieves. In fact, even the owner would pass right by them and not notice them, for they have become invisible.

Next morning the animals are "released" by the "Protector" and the owner can go out and find them at once. There is no fee paid to the "Protector" for performing this ceremony, but he (or she) should be given a little snuff.

[illegible] same "Protectors" is sent for to perform a "driving-out" ceremony. All the cattle and sheep of the infected village are brought together into the cattle enclosure and a ceremony called "*Chomo tomonongishu*" is performed. The "Protector" selects a young bull and a young heifer of about the same size and of the same colour (these two animals must be of a single colour and not pied or spotted in any way). He also chooses a small boy and a small girl. He then instructs these two children to drive the two animals slowly right round the outside of the enclosure and back through the entrance to the cattle again. This "going round" ceremony is accompanied by appropriate sentences by the "Protector" bidding the disease depart, and the ceremony ends. The "Protector" is given beer as a fee. After such a ceremony any cattle disease is supposed to die out quickly.

Preventing Mating.—Among the Masai it is a common custom to put a special shield on to bulls to prevent indiscriminate mating. This shield consists of a square flap of leather which is fastened just behind the animals' forelegs by thongs which come up over the ribs and are tied in the region of the animal's back. This practice is especially common when cattle from several villages are being herded together during the day. Then when the cattle return in the evening to their respective

11: Leakey E-5 (no date) 1930 FL12 Masai FL12
Kenya

233 villages the shields are removed to allow mating to take place with the owner's
232 own cows. The same method of preventing mating is used with rams, but to a much lesser extent. If a man has several good rams he keeps shields on a few of them at a time in order to use his rams in rotation.

233 *Blood-letting.*—Among the Masai, blood is a staple article of diet. It is either
[262] drunk hot and fresh, or cooked with bits of fat and meat into a "black-pudding," or else mixed with fresh milk and allowed to curdle.

In order to obtain blood every sheep and every head of cattle is bled at intervals. Cattle are bled by one method and sheep by another. In the case of cattle, the animal is seized and held, and a thong is then tied round its neck until the vein at the side of the neck swells up under the pressure of the blood. The vein is then
[413] punctured by means of a special instrument which may be termed a "blood-letting arrow." The blood-letting arrow consists of a small stocky shaft into the end of which a *small* flat blade is inserted. This blade has a curved edge and is very sharp. This arrow is used with a special bow which is always small and usually very roughly made. The *arrow* is not shot from a distance, but *placed against* the swollen vein. The bow string is only pulled back very slightly and when released drives the arrow just far
[415] enough to open the vein. The blood is caught in a gourd and the animal released.

Sheep are bled by a different method; the animal is held and a small incision is made just above one eye and blood drawn off.

262 *Meat-feasts.*—Young men and old alike indulge in frequent meat-feasts, meat
[20] being a staple article of diet. No men may eat meat inside the villages, so meat-feasts take place either in special huts built at a little distance from the villages, or in a cave if there is one near-by.

There are certain rules and regulations concerning meat-feasts, as follows:—

(1) No man may eat meat that has been touched by a woman.

[231] (2) No Masai man may slaughter cattle himself. In every case a man of the
[543] Wanderobo tribe must be called in to kill the animal, and he must be rewarded by being given a part of a feeling.

(3) The neck, stomach and some of the intestines are always given to the women, who may come and fetch them. The breast must be given to the man to whom the slaughtered animal belonged.

(4) During a meat-feast, some at least of the feasters must sleep in the hut or cave where the meat is, and it is usual for all to do so. If by any chance the fire should go right out in the course of the night, it would be considered a very serious matter indeed. In such a case no one inside the hut may go out by the normal entrance, but must break through the walls (in the case of a cave they must break through the brushwood screen which is invariably built across part of the entrance to the mouth of the cave), and all the meat that is left over must be deserted and left to the hyenas. The breaking of this rule is said to result invariably in the death of the miscreant.

13:Huntingford E-4 (no date) 1953 FL12 Masai FL12

of cattle to a family (*kishomi*) in 1948 was between 100 and 200 head. There appears to be no such system as the Nandi *kaptic* or Kipsikis *kimanahan*. (See above, p. 21.) Milking is done by girls and women into gourds; the calf is allowed to suck, and if it dies the skin, sometimes stuffed with grass and called *ol-kutu*, is presented to the cow at each milking. The milk yield is about three pints a day. Cattle are bled in the same way as by the Nandi, with a blocked arrow, *ol-goret*, shot into the jugular vein, and the blood is caught in a gourd. Sheep also are bled. Cattle are branded with marks on the rump or flank which indicate the owner's clan or sub-clan, with sometimes a private mark as well; the ears are also clipped for the same purpose. Salt for cattle is obtained by driving the herds to a salt-lick, *em-bolioi*. The Masai are said to have effective remedies for diseases of cattle, but their efficacy has never been enough to prevent heavy loss during epidemics of rinderpest and pleuro-pneumonia.

Donkeys

The Masai keep large numbers of donkeys (*i-sirkon*, sing. *o-sikiria*) which are used for carrying their goods when they move house (*idur*). Donkeys are marked by slitting the ears in different ways.

The Status of Cattle

The status of cattle as regards ownership is uncertain. Merker says that warriors may own cattle; Thomson says they may not, and on such a point the statements of a traveller are open to question. Fosbrooke says that they may.[1] But further investigation of cattle as property, and of their status in the light of ritual value is required.

Inheritance of Cattle

There does not seem to be any clear account of the rules which control the succession to a man's stock among his sons. The guiding principle is that the eldest son of the senior wife gets the largest share, inheriting not only the cattle given in trust to his mother, but also those which his father had kept for his own use. Inheritance is affected also by the "gate" (*kishomi*) arrangement in the kraal: for cattle may not pass from one side to the other. If a wife on the left side dies without sons, her cattle may not go to a man on the right side so long as there are any sons by other wives on the left side. This subject also needs further investigation.

Grazing and Water Rights

Land is not owned by individuals, but by the sub-tribe (*ol-osho*), and grazing rights are acquired by residence. Water rights are controlled by the clan. In the old days, when the Masai occupied new territory, each warrior, according to tradition, claimed a well, spring, or water-hole on behalf of his clan. Individual rights over water are thus ruled out by tradition, and the senior member of a clan living at the water decides, after consultation with other clansmen, the order in which people take their cattle to water. But a Masai when actually on the move with cattle may claim, and must be given, priority over local cattle at any well or spring. Where water is plentiful, however, as in a river, possession is communal.

Division of Labour

In a purely pastoral society like that of the Masai the expression "economic unit" has little meaning, but so far as it can be said to exist, it is the family. It must be remembered, however, that the normal practice is for families to be divided between the father's kraal, *enk-ang*, and the warriors' kraal, *e-manyata*, and that the

[1] Fosbrooke, personal communication.

[For details of the (kishomi) arrangement in residence, see p. 109. --Analyst]

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[For generic names of plants and for their uses in animal husbandry, medicine, and nontherapeutic drug manufacture, see category 824.]

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recovery from their pains. Mbatyan earned outstanding merit through the discovery of a protective vaccination against lung disease of cattle. According to the corresponding accounts of Zendeo and four old Masai, Mbatyan, several years before his death, had already prophesied the appearance of rinderpest that did not take place until after it and the subsequent subduing of the Masai by Europeans. In the outward appearance of this man nothing divulged his power. On a thin, average-sized figure sat an ugly head whose face was disfigured more particularly by the lack of one eye -- allegedly a birth defect. This latter circumstance led to the origin of the legend that the chief must always be one-eyed and that the father should destroy in childhood one eye of the son later following him. The face was even more repulsive because of a scanty, slightly gray full beard.

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That is, in contrast to the other men, neither the ol oiboni nor the el goiatek and el kiborón mentioned farther below may pluck out their beards, because they would lose their supernatural power through the removal of the beard hairs.

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The chief's village consists of a large number of kraals lying close together, several of which serve as the dwelling of the ol oiboni with his numerous wives. Mbatyan had about 200 wives; the still young Zendeo has only 20 of them. No strange man may enter these dwelling kraals of the chief and his wives or appear in their immediate vicinity. Close by are found the rest of the kraals, one of which is intended for conferences and receptions and in which a few older men close to the chief as helpers and advisers (el dunganak oirorié ol oiboni) live with their families, whereas the others are occupied by warriors who form the defense of the village and, on the marches of the chief, his bodyguard. In his last years of life, when Mbatyan was mentally disturbed, he often spent months on the open steppes in a small hut made of branches, around which the warriors accompanying him camped in a large circle. The ceremony in the chief's camp is very simple. One of the men wandering about idly in the village leads the newcomer into the conference kraal, where he waits for the chief. As soon as the latter appears, the stranger

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/161 cont./ The cattle are zebus (Bos indicus) among
233 which one can distinguish a stocky, short-horned breed and a thinner,
[136] long-horned one. One almost never comes across pure representatives of either, however, rather, as a result of plunder and crossbreeding, all the types occurring in East Africa are represented among them. The actual Masai cattle (ń gischu el masai) scarcely exceed in size the average East African cattle. The foreign, that is, stolen, cattle especially prized are: on account of its considerably larger size, the livestock from Irangi and vicinity (ń gischu ol datua), that from Unyamwesi and Usukuma (ń gischu ol moibaro), and further the large-horned ń gischu e kiteto, named after the steppe area of Kiteto, west of the area of Nguru. Among all the udders are relatively small and the yield of milk is consequently little. An exception to this is a low, stocky breed with short horns, which produces a double quantity of milk and about which the Masai maintain that they are quite pure descendants of the old Wakuafi cattle (ń gischu el lumbua). The Masai call descendants mańgă. Since the calves
234 are not permanently separated from the cows, the women try to avoid the natural restlessness at the milking by bringing the calf close to the cow during the milking. They place themselves astride it and hold its head firmly with the knees. The cow licks the calf, believes that it is sucking, /162/ /Ills. 51 and 52 appear here/ /163/ and is quiet. If the calf dies, one deceives the cow about its presence by hanging the freshly dried /Fig. 74 appears here/ skin over a stick. The cows are milked twice a day, morning and evening, and each time give about one and a half liters of milk. They are never milked completely; rather one leaves the calves with them afterwards. Until the calf is two months old, it is given the milk from
• 232 two tits, while the other two are milked. The principles of breeding and selection in general are well known to the Masai (Fig. 74). Male calves that are not to be used for breeding later on are castrated
[412] at the age of 14 days (a-gelém). With a sharpened /Ill. 53 appears here/ piece of sheet iron, such as is used for shaving, a cut is made in the scrotum, then each testicle is grasped with the hand and pulled out, together with the spermatic cords. "So that the wound may heal more quickly," one sticks in a dead fly and ties one of the removed testicles around the left foreleg of the calf operated on.

[TEXT CONTINUED ON PAGE 217]

18: Merker--216 G-5 (1895-ca.1908) 1910 FL12 Masai FL12

/Illustrations from p. 163 of the original source./

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Fig. 74.

Buck apron.

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C. G. Schilling's phot

Ill. 53. Masai cattle and donkeys.

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232 Bulls that develop unfavorably and seem unsuitable for breeding are castrated by the smashing of the spermatic cords with the club between the wood and string of a bow (a-idôn). The testicles are not removed, but are left to atrophy. In the same /164/ way one proceeds to castrate goats, sheep, and donkeys, but the latter always not until they are fully grown. Bulls and bucks with unnatural sexual instincts are slaughtered as soon as the vice is noticed, since they are regarded as bringing bad luck. It is believed that, as a result of their behavior, they bring the punishment of God upon the herd in the form of an epidemic.

231 The donkeys are small, square-built, strong, and steadfast. With nicely arched cruppers, a rounded neck, firm and fleshy shanks, they are very similar in shape to the zebra. Their coloring is a uniform light gray with a black cross over the back and shoulders. They serve only to carry burdens, whereas oxen are only rarely used.

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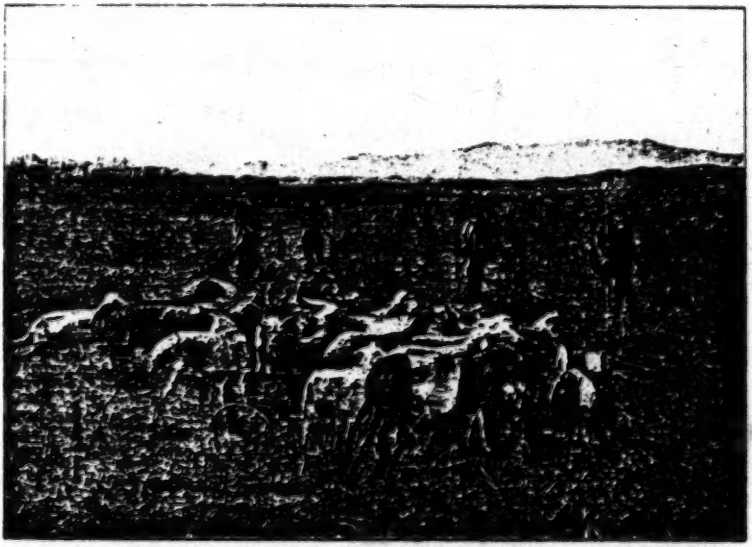

C. G. Schillings phot.

Ill. 54. Masai goats and sheep.

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231 [613] Two breeds are distinguished, a shorter and stockier one and a longer-legged, thinner one. The latter is allegedly found only among the El barsegero lineages.

233 [621] Among the goats a small breed and a large one can be distinguished. The Masai have obtained the latter only through raiding expeditions in Pare, Unyamwesi, etc.; the true Masai goats are small. All have medium long, smooth hair, a markedly projecting forehead, and lop ears. The horns are usually only an inch long and have tips turned back somewhat. Among bucks they are larger, but also only rarely seven to eight inches. /165/ The sheep are only medium-sized compared to European ones. They have curly, coarse hair. Three breeds are distinguished, a large one (eń ger sabug = large sheep) with fat rump, a medium-sized one (eń ger kětě = small sheep), white with black head and medium-long fat tail, and a small (eń ger kiberoto; kiberoto = poor, paltry) breed and with a [232] long fat tail. Among the young female animals of the last two breeds the fat tail is cropped for fear it might be obstructive to the buck during coition.

The black-headed breed is stronger in North Africa and probably degenerated here, just like the last of the three breeds, which might

C. G. Schillings phot.

Ill. 55. Masai goats and sheep.

/168 cont./

231 233 422 [613] [17] show to what lineage or sublineage the owner belongs; those on the small livestock the owner chooses for himself. Probably every lineage has several distinct marks. A glance at history will explain this. In the immigration of the Masai people, accomplished little by little, each of the many bands originally formed a closed whole, which each lineage represented in it adopted a particular mark in order to make its property known. So it was natural that later on different ownership marks existed in connection with one and the same lineage, each according to the affiliation with this or that band. Besides this some that belong only to individual -- very wealthy and widely ramified -- families are also known, and then they are applied in place of the others, not together with them. The marks on the cattle are the same as those on the donkeys, although the latter bear the ear marks almost exclusively, only very rarely also those on the body. If a [613] head of breeding cattle passes to an owner belonging to another lineage, it is usually given a new mark, and, to be sure, this one then on the right side of the body. Besides the 233 531 ownership marks, cattle often have still other signs burned in as adornment, especially circles or a sentry-box type of design. A [232] [412] circle around the root of the tail and, on either side of it, one or two concentric rings on the hind legs are found especially frequently among bulls. In addition to these 233 232 cut and brand scars, which are therefore supposed to serve in part for identification, in part for beautification purposes, there is also a third type, which arises from operations that are performed with a red-hot iron (Fig. 75) for the curing of swellings on joints and tendons. These lines, usually lattice-shaped, are also found among goats and sheep. On female calves the horn attachments are often cauterized, so that they can not butt later on. This operation further brings about, in the view of the Masai, an enlargement of the belly, desirable for leather production.

Fig. 75.

/168 cont./

233 232 At births manual help is given. As soon as the cow lies down, she is held firmly by a few people; others grasp the legs of the calf coming forth and pull it out. Then it is struck against the belly of the cow a few times, so that "she will love it," and then struck on the forehead with the palm of the hand, so that "it will quickly go to the udder and suck."

233 232 Swellings on cattle, for healing, are smoked with the glowing stalks of en dulele en gare (Solanum spec.).

[237] Injuries to the feet of the cattle and goats are treated by a thorough washing with hot water and subsequent embrocation with cattle urine, as is a sort of foot rot (en jalăn), which /169/ frequently appears when the cattle stand for a long time in mud and dirt during [231] the rainy season. One tries to cure ailments of donkey hoofs by placing the hoof on a stone heated very hot and holding it there for a few moments.

In describing the internal ailments of livestock I am relying chiefly on the statements of the Masai, since only exceptionally did I have an opportunity to make observations on cause, course, etc.

[237] For coughs (eŋg erroget) the cattle are given a thin soup consisting of milk and pulverized, charred neat-skin. Ol ebitiro bark cures diarrhea in cattle. The infusion of a decoction of ol ojengalani bark (Sesbania aegyptica) for cattle acts beneficially on the afterbirth and curatively on the birth organs. To hasten the afterbirth after a miscarriage, one gives the cow an infusion of a root decoction from the ol jogi l ol aiteri (a Euphorbia).

For eye inflammation one spits milk into the eye of the neat and rubs it in it, or one drips into the eye the juice of the ol aisegerai kitok (Heliotropium Steudneri Vtke).

An epidemic disease among young calves, which is supposed to lead rapidly to death, is called ol diñana or ol digăna by the Masai. [824] As the cause of the ailment they cite the eating of a certain bush en jarú (Pennisetum ciliare) and as sympton swelling of the lymph glands, which they often try to heal by cauterization (1).

1. In all the meat and fatty parts of the stricken

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/footnote 1 continued/ animals there are said to be found heavy hemorrhaging and in the entrails a greenish, watery fluid.

Another frequent ailment of calves is called eŋg amonjani and consists of a rash, predominantly on the head. The individual spots are gray and dry and are the size of a mark or a taler piece. The Masai know nothing about their cause. From time to time one gives the sick animal an infusion of fresh beef blood. The ailment is usually cured within a few months and is supposed to disappear at the latest after complete weaning.

For fever one gives the cattle an infusion of an extract from the pounded stalk of en goloscho (Capparis galeata Fres.) and sprinkles wood ashes on their fodder. Calves are given an extract of the pounded bulb of ol gine (Scilla spec.) to drink.

Ol ogereger is a cattle ailment that usually leads to death overnight and, in the opinion of the people, arises through swallowing dust in the dry season. This ailment is recognized by the fact that the animals tremble all over their bodies. Drinking is supposed to hasten death, whereas the refusal of water shows that the animal will recover.

They know of no remedy against rinderpest. If the epidemic appears in the vicinity, they flee as far away as possible, and then, as soon as /170/ suspicious signs of sickness are observed in their own herd, the wild flight is resumed with the healthy animals, while the infected animals, which soon lose flesh, remain behind and die by the wayside. They call rinderpest ol odoa (1)

1. Pronounced 'lodoa or also 'lotoa.

= the gall, in whose morbid change they see the chief symptoms of the sickness.

On the other hand, they are familiar with a protective inoculation against tuberculosis (ol gibiĕi) (2)

2. Also ol kibiĕi.

/170 cont./

233 and first used it successfully on a large scale at the end of the eighties.
• 232 One or several cuts are made with a knife in the underskin of the bridge of the nose of the animal to be inoculated, so that blood flows copiously from the wound. At the same time the chest cavity of an animal

Merker phot.

Ill. 59.
Cow inoculated on the bridge of the nose against tuberculosis.

Fig. 76.

that has just died is opened and from it is taken a fist-sized piece of the lung, greatly swollen and filled with a watery fluid. One rubs the wound thoroughly with this piece, so that the fluid penetrates well. Soon after the operation the nose swells considerably and mucus flows copiously from the nostrils. The sickness comes out of the nose, the people say. The healing of the external wound is sometimes connected with a considerable ulceration, which not so rarely leads to a purulent inflammation of one eye, indeed to the complete loss of it. The ulcer heals with the formation of a thick,

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232 233 horny scar often five centimeters high, /171/ through which the inoculated animals, which are now supposed to be protected against becoming sick with tuberculosis, are permanently marked. Numerous observations in this direction showed me the justification of this view. [176] [791] The ol oiboni Mbatyan is regarded as the inventor of the inoculation method.

[136] In some years, and, to be sure, in the rainy season, great multitudes of dark green caterpillars one to one and a half inches long are found in the grasses of the steppe. Cattle that eat the caterpillars are stricken with eng ea el gurt (ol gurto = the caterpillar). As symptoms of the sickness I observed: first a few hoarse coughing sounds, then giddiness, which rapidly mounts and makes the animal stagger as though out of drunkenness; soon it lies down and is brought to a standing position only with difficulty, only to lie down again after a few minutes, whereupon death occurs often after only half [411] an hour. The treatment consists of bloodletting by an arrow shot (Fig. 76) into the jugular vein, whereby one to one and a half liters of blood is emptied out. Through that recovery is reached after just a few hours, as I observed in over 100 cases (1).

1. The microscopic examination of blood slides (ear, heart, spleen) of sick and dead animals gave a negative finding (Oberarzt /staff physician/ Dr. Grothusen). I observed the appearance of masses of the caterpillars in March, 1898, in the steppe south of Kilimandscharo, in December, 1902, in the steppe southwest of Kilimandscharo, in the entire region between the latter and Lake Manyara, and in April, 1905, in Daressalam /Dar es Salaam/.

[177] In another case, out of four head of cattle, after two had already died of the sickness, the other two, through the infusion of an emetic consisting of a mixture of sugar-cane beer and a tobacco extract, which was given upon the advice of the Wapare in Manamata on the southern end of Lake Jipe, could be cured.

/171 cont./

233 Manamata on the southern end of Lake Jipe, could be cured.
• 232 Grazing cattle do not also eat the caterpillars, but first blow them away; thus, on the march, one should drive them slowly through a region infested with these caterpillars, so the blowing away is possible for them.

The Masai designate as em bujangát a cattle sickness that most probably is pulmonary anthrax, caused by the inhalation of dust containing anthrax spores. As a remedy they give the cattle a leaf extract of ol gítelegi mixed with a little milk.

Volvulus (e manjít) is treated by a vigorous blowing of air into
[415] the anus. One applies for this a wooden tube (ol gídoi), which otherwise is used to store the ostrich feathers of the warriors' head ornaments. It is regarded as a symptom of volvulus when the sick animal, without showing any desire to eat, often lies down and rolls about.

With the en dára sickness of the cattle the sick animal is said to emit often a strong carrion-odor; the lymph glands are swollen, the belly is distended. As the cause of the sickness popular belief names a large snake that has contaminated the pasture grass. A cure is not known; experiments, however, have shown us that in the first stages of the sickness a laxative (a bottle of salad oil or sour native beer would be given as such) brings speedy recovery.

/172/ The e' ngatín sickness, also called en gutuke on janít, is recognized by the fact that balls of gnu hair are found in the stomachs of the stricken animals. The only symptom of the sickness, which, however, it has in common with many others, is the refusal of fodder. The people believe concerning the cause of the sickness that the neat ate the grass, contaminated with uterine blood and hair, from a spot where a gnu dropped young.

For the eng éa om benék of the cattle the Masai give the sick animal the strongly laxative extract from the pounded leaves and fruits of ol gebárnja (Combretum spec.) to drink. As the cause of the sickness they assume that the animal ate the grass on which a buffalo cow dropped her calf. According to their statements, mucus flows from the nose of the sick animal, it trembles over its whole body, and the dung has a ponceau-red coloring.

/172 cont./

232 233 For the hoof and mouth disease of cattle (ol gíluk), which is recognized by sores on hoofs, in the mouth, and on the tongue, one limits himself to treating the hoof sores in the manner described above.

[824] A morbid elongation of the hoofs -- ol airascharasch sickness -- the Masai trace to the fact that the sick animals have eaten the ol aiascharasch bush (Crotalaria labumifolia). In the hot season this bush dries up, and the cattle do not eat it any more, whereupon then the tips of the hoofs are said to drop off soon by themselves.

For coughing (eńg erroget), goats and sheep are given a decoction of os sogonoi bark to drink.

The eng ga nairogua (eng ga = sickness; irogua, nairogua = hot) of goats and sheep is a sickness rapidly leading to death, whose symptoms are fever, weak breathing, and a distended belly. No remedy is known. The microscopic examination (1)

1. By Gouvernementstierarzt /government veterinarian/ Dr. Brauer.

of blood slides showed that it is a matter of pulmonary anthrax caused by the inhalation of dust containing anthrax spores.

One tries to cure -- usually in vain -- a pocklike rash of goats and sheep (eng ga narre) by means of two brand strokes that go from the nose along both sides of the body to the anus. With dissection pustule ulcers are found in the stomach.

With eńg ga eń goilín (en goilín is any small antelope), which afflicts only goats, the eyes stand out strongly. For the cure one makes incisions in the temples and drips hot fat into the eyes. Popular belief opines concerning the cause that the animals, during sniffing searches for fodder plants, had breathed in the dried excrement of these antelopes.

For severe flatulence, from which goats and sheep often suffer after an excessive eating of fresh grass, one punctures the belly with a sewing awl to let out the gases.

/173/

233 The foliage of the ol jani l el sirgon tree (Cadaba farinosa),
232 that is, tree of the donkeys, is regarded as poison for donkeys.
231 Besides a horsefly, ol gimbai l ol sirgon, from whose bite the
824 donkeys (bitten in the penis) are stricken beyond recovery, the Masai
136 also fear for donkeys and cattle the tsetse fly (Glossina morsitans), which they call en dorobbo. The latter is allegedly only dangerous to cattle if it bites them in the tip of the tongue. One seeks a cure by cauterizing the spot bitten, but the result is very doubtful.

For getting rid of fleas, one washes young livestock with an extract from the crushed plants of ol osidja gutok (Asystasia gangetica L.) or from ol abai (Microglossa spec.).

The powdered root of ol girigir (Acacia pennata Willd.) is blown into the nose of calves and small livestock, in order to drive out the maggots of the throat fly /warble fly/.

233 Cowbells (Fig. 77) in the form customary in Europe are found
534 generally, but here they are hung especially on oxen and only on those cows that do not tolerate their calves. Smaller bells, often

Fig. 77. (¼)

Fig. 78. (¼)

of wood or sheep horn with wooden clappers, are worn by castrated
233 sheep and goats. As adornment one hangs around the neck of castrated calves clapper-shaped pieces of ivory (Fig. 78) or, for especially handsomely developed cattle, a leather band or a cord stitched with cowrie shells.

/187 cont./

External Ailments

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[232] Surgery is the domain of special surgeons (ol ahani, ol ahani who extend their practice both to human beings and to cattle, goats, sheep, and donkeys. The calling as a rule is handed down from father to son. One cannot speak of a special caste here, however, since the surgeons occupy no special social position -- either in a good or a bad sense. Only the son of an ol ahani who knows how to practice the art is ol ahani, and, to be sure, only so long as he practices it. If, by way of exception, someone whose father is not a surgeon learns the art, he thereby becomes a surgeon. The surgeon thus practices a open calling.

As payment for help rendered, the ol ahani receives, according to the difficulty of the case or the success of work done by him, a head of livestock, from a head of cattle down to a young goat or a lamb. One should also mention the remarkable arrangement that he can make a claim regarding the payment only if his treatment has had the desired result, and the patient /188/ need not pay before the resulting complete cure. An established custom determines what falls in the department of the surgeon. The ol ahani stays within these prescribed limits under all circumstances. If this is not conducive to progress, it has the result, on the other hand, that every Masai, when necessary, entrusts himself immediately to the surgeon without hesitation. He knows that the latter will not undertake an operation on him which he cannot safely perform, but rather that whatever he does, he has often seen and has done with an older colleague or alone. No narcotic agents are available to the surgeon, [752] but his patients have command over very "strong nerves," over an enviable mental sturdiness.

752 The juice of ol gilotti (Acacia abyssinica), chewed out and spat into the wound, and the charcoal powder of ol dalgai bark (Harrisonia abyssinica Oliv.) are used as astringent remedies.

Arteries have ligatures applied, if necessary, and, to be sure, by means of a leather strap placed around the limb, which is tightened by a short stick. The cut ends of the artery are then sewed together as quickly as possible with awl and tendon cord, after they

19: Talbot K-4,5 (1956-1962)1964 FL12 Masai FL12

management were determined primarily by water and disease. Of these two factors, water appears far the more important.

Water: It is clear that water is basic to the survival of the Masai and their livestock. There is an upper limit to the number of animals that any one water source can supply, and it is the dry season water source that is the primary limiting factor here. The Masai believe it essential to water their livestock at least every other day, except in times of extreme emergency (Pope-Jones, 1948; Grant, 1957). This belief is widely held throughout the European ranching community in East Africa also. The location of homes, much of the Masai mode of life, and their animal husbandry is organized on and around this assumption.

Experiments carried out by the East African Agricultural and Forestry Research Organization under the direction of Dr. W. Pope are showing that in Masailand, cattle which are provided water only once each three days and which walk up to about 15 miles to get that water can survive drought conditions as well or better than those which are given water each one or two days near their forage.(1)

(1)
A preliminary report on this work was presented by Pope, Boother, Bonin, Hutchison, MacFarlane, and Maccombe at the 6th International Congress on Animal Production in

19/ Talbot E-4,5 (1956-1962)1964 FL12 Masai FL12

Hamburg, Germany, but I do not have the reference available. The experiment was outlined by Payne (1961) and part of the results presented by Livingston, Payne and Fetene (1962).

If the Masai were indeed good animal husbandmen, it is surprising that they have not discovered this fact in the 400 or more years they have been herding cattle in East Africa. The fact that they apparently have not is probably due to their intense conservatism, particularly as it affects their cattle. Evidence such as this points to the deep seated conservatism [illegible] last century, to which Fosbrooke (1948) and others have credited present Masai conservatism.

233 Water supercedes all other considerations in Masai grazing management. In periods of extreme drought the Masai will take their cattle into areas infected with tsetse fly if water is there, preferring to accept some mortality from disease than greater mortality from thirst. The same consideration governs their moving stock into areas where the grazing rights belong to other groups or tribes, or into areas where the danger of wild predators is greatest.

232. Disease: Disease periodically decimated Masai livestock even before the introduction of rinderpest.

• 232 Thomson (1885) describes visiting an area where some cattle disease had killed many of the cattle. The Masai recognize several cattle diseases and reportedly (Grant, 1957) had their own methods of dealing with them before the introduction of modern veterinaries. In the case of rinderpest, when one village has a mild outbreak, Masai from other villages allowed their cattle to catch the disease to inoculate them. Most other veterinary medicine appears to have been preventive.

Snotsiekte, or bovine malignant catarrhal fever is a disease known world wide which causes high mortality in domestic cattle. The Masai believe that their cattle will contact this disease if they graze where wildebeests have calved. They say that the disease comes from the afterbirth of the wildebeests, or the short baby hair that is shed when a wildebeest calf is several weeks old. Work was undertaken at the East African Veterinary Research Organization to define the causal agent of the disease, its characteristics, and the relationship between the wildebeests and the disease (Plowright, et. al., 1960). This work has shown that the wildebeests do serve as a reservoir of the disease, which is caused by a virus, but that the disease does not appear to affect the wildebeests themselves (Ibid.).

19: Talbot K-4,5 (1956-1962)1964 FL12 Masai FL12

• 211 The method of the Masai to prevent the disease is to move their stock away from the areas where wildebeests are calving. They also occasionally attempt to drive the wildebeests away from the cattle, or keep them out of areas occupied by cattle. Grant (1957) has noted the latter, and at the time of wildebeests' calving we observed Masai driving herds of wildebeests away from their cattle.

"Nagana disease" or trypanosomiasis is carried by tsetse flies. The flies carrying this disease have been such an important factor in the ecology of the area that they are discussed at greater length below in a separate chapter. Areas occupied by the fly are avoided by Masai when grazing their cattle, although sheep and goats are not affected by the disease and they are grazed in such areas. The Masai method of coping with the disease is simply to avoid it. They also alter the flies' distribution through burning (see below) but it is questionable to what degree this effect is intentional. The veterinary departments are now providing the Masai with anti-trypanosomiasis drugs which to some degree allow them to graze in areas previously denied them.

232 East Coast fever is a tick-born disease of cattle . It is widespread throughout East Africa. In European ranching areas the cattle are dipped weekly to remove ticks. This is not possible with most of the cattle in Western Masailand, hence the Masai avoid the areas where the danger of the disease is heaviest. The disease appears to flare up at irregular periods, and certain areas are known to be particularly dangerous. One such is the lower slope of the Ngorongoro Highlands near Endulen. The Masai believe that the disease is caused by infected grass (Grant, 1957) and they fight the disease by burning the grass and grazing sheep and goats intensively.

Various other diseases periodically affect Masai livestock. In most cases the reaction of the Masai to diseases of livestock is first to avoid the area involved, if at all possible, and secondly to burn.

233 Herding and Control of Livestock: Masai livestock are herded and grazed in characteristic tightly packed groups (Fig. 24 and 25). The compactness of these herds makes for easy distinction between domestic livestock and wildlife when seen at a distance. Presumably a tightly packed herd is easier for the herder to control and possibly a little less vulnerable to predators.

19: Talbot K-4,5 (1956-1962)1964 FL12 Masai FL12

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In 1904 the cattle numbers in Masailand of Kenya were estimated at about 50,000, and there were an estimated 600,000 sheep (Simon, 1962). By 1961 the Kenya Masai had a population of 973,000 head of cattle, 660,000 sheep and goats, and a large number of donkeys, "at least double the quantity that their land will carry during normal conditions" (Glover and Gwynne, 1961).

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Range Management of the Masai: Grass is recognized by the Masai as being important to their livestock. But in general those in Western Masailand appeared to have surprisingly little appreciation of the types of grass that were preferred by their livestock or of the effect of varying grazing pressures on the grasses. There are Masai names for a number of the grasses. Yet many Masai in the study area only know a few of the more common ones. When discussing grass foods the Masai almost invariably say that the cattle eat grass, as do the wild animals. There appears to be little appreciation of the differing diets or well defined preferences exhibited by these animals (see below). When inquiring about the names or characteristics of various grasses the typical answer we recieved was to the effect that we were fundis (experts) on grasses, while they were fundis on livestock. They would then point out that in a herd of several hundred animals they knew

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232 each one. This example, in fact, provides an insight
182 into the emotional nature of animal husbandry of the
Masai.

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232 The Masai realize that bush is encroaching in
182 many areas and that the forage is not as good as it
233 used to be, but this is explained as a shauri ya Mungu,
a matter of God's will, not man's. They will leave their
animals grazing on an area where there is water as long
as there is any grass left. The idea that overgrazing can
weaken or kill grass plants appears to be either foreign
to them, or it is outweighed by other considerations
unknown to us.

232 With the exception of burning, discussed below,
182 we did not see a single example of any range management
233 activity that was not directly based on water or disease.

13 The original pattern of migratory or nomadic
237 grazing followed by the Masai duplicated that of the
182 wild animals. Under the environmental conditions of
Masailand it was and is probably the most efficient
and potentially most productive way to use the range-
land. As will be discussed below, under the semi-arid
conditions of Masailand many grasses cannot support heavy
year-long grazing while they can thrive under periodic

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A several years' drought culminated in 1961, and as a result of the extreme overgrazing in Eastern Masailand, thousands of cattle and many Masai died. As was evident on the ground, and as clearly pointed out by many -- even veterinary officers (Waddington, 1961) -- the mortality was due to starvation on range depleted by overgrazing before the drought. There was plenty of water for the animals to drink. The mortality in the cattle of Eastern Masailand ran from 300,000 to over 400,000 head, and I was told that over 1,000 Masai starved to death also. In spite of this dramatic illustration, the Masai to whom I talked in 1962 blamed their difficulties on the will of God or the Europeans who appropriated their land.

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Masai Livestock: The Masai cattle of Western Masailand today are a mixture of breeds with short-horned zebu (Bos indicus) predominating. The Masai highly prize longer horned animals, and occasional herds will have a massive-horned Hamitic Ankole bull. It has been suggested (Payne, and Masai, verbal) that before the rinderpest epidemic of the 1890's the Masai cattle were predominantly long-horned. The rinderpest epidemic wiped out most of these animals, and the short-horn zebu, with its greater resistence to rinderpest, took their place. The short-horn zebu was introduced from

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231 We had the feeling, however, that donkeys just as other
554 livestock are a measure of success and security, and regardless of the need some donkeys would be maintained.

*136 These donkeys are small animals whose weight
231 is probably less than half that of a wildebeest (i.e.
*233 under 200 pounds). They are quite independent. We often saw the small herds of donkeys leave a boma unherded and go to a water hole, then graze back to the boma. This practice probably would not be followed in areas where predators were common, but in the peripheral areas it appeared to be the rule.

178 Large numbers of donkeys appear to have been
231 the rule for some time. Joelson in a general discussion
*233 of East Africa in 1928 referred (p.61) to the "Masai, who graze immense herds of cattle, small stock, and especially donkeys..."

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182 Burning
• 232 The Masai burn grass whenever it is dry enough
824 to ignite. The reasons they give for burning include the following: It produces a flush of new grass that is particularly palatable, nutritious and easily available for their livestock. It clears the woody growth and makes new grazingland. It clears or reduces ticks, tsetse fly, and disease.

easier to light more fires are lit, just as in the case of hunting tribes who have received firearms; with game easier to kill, more game is killed. Control in these matters appears to be enforced by availability of tools and difficulty of accomplishment, not by any conservation ethic.

We questioned Masai, other Africans, and Europeans about lightning fires and never found the slightest evidence of lightning causing fires in the savanna country. There is no doubt that it ignites some fires in rim-rock or mountain areas, but we never even saw a lightning-struck tree in the study area. All the lightning we observed in storms was high, it occurred in heavy rain storms, or it was low in the region of Lake Victoria.

There does not seem to be any discipline or organization to the burning by the Masai. Fires are started in dry grass when herds leave an area, but they are also lit when herds arrive in an area, if the grass is dry enough. They are even lit in pauses during rain storms.

The forest country on the hills is also burned at

every opportunity. There the purpose is primarily to clear new grazing land. During the 30 months of our major study period, we were in sight of the Mau forest (at the foot of the Mau Escarpment) at least twice a month, often in the rains, and only once did we not see smoke from a fire burning in the trees or brush.

Relations with Wildlife

The most significant influence the Masai have exerted upon the wildlife is their protection through excluding hunting tribes from Masailand. The Wanderobo are an exception, but there are relatively so few Wanderobo that they have little effect. The areas of East Africa where the finest assemblages of grassland wildlife still exist are those in Masailand.

The animals Masai hunt or have hunted include buffalo for shields and possibly food, eland for food and the hides, giraffe for hides and tail hairs (to ornament gourds and dresses, according to Millais, 1920), lions and sometimes leopard for defense and for lion manes, and rhinoceros for horns and to spite national park authorities (particularly in the past decade). In times of drought the Masai may spear various animals for defense or to avoid competition for scarce water. They will even spear elephants at such times (Grant, 1957).

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Masai youths and young Moran may spear any passing animal, possibly to test their skill, but this probably involves relatively few animals in total. It does affect the animals' reactions to the Masai. A Masai driving some livestock, even one cow, is apparently virtually ignored by most wild animals. We watched one Masai drive a lone cow through a herd of 335 wildebeests and 115 zebras. The herd eddied about him at a distance of 20 to 40 yards, and for about a mile he appeared almost a part of the herd, all moving along at about two to three miles per hour. We often saw wild animals grazing in close proximity to Masai livestock and herders. A lone Masai with a spear and no livestock is something else again, and most wildlife will stay nearly 100 yards away from such a person.

857 Masai boys play a game "marking" wild animals. They try to catch young of various species and notch the ears in the same manner as they mark their cattle. Later, when observing the same marked animal they say that it is "my animal." We captured a wildebeest with notched ears in Ngorongoro Crater and a nearby Masai said that it was his wildebeest as he had cut the animal's ears when it was a calf.

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As noted above Masai try to avoid wildebeests

19: Talbot K-4,5 (1956-1962)1964 FL12 Masai FL12

• 232 825 when they are calving because of the snotsiekte disease. In times of drought they try to drive wild animals away from their water holes. When not in use, these holes are often fenced off with a thorn boma to keep them from the wild animals.

#13 Beyond indirect protection, the greatest ecological influence exerted by Masai on wildlife is through their burning and their livestock. The effects of these processes will be discussed below.

19: Talbot K-4,5 (1956-1962)1964 FL12 Masai FL12

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Veterinary Services 1918-1962

From the end of the 1914-18 war to the present the Departments of Veterinary Services in both Kenya and Tanganyika have been very active in Masailand. The visible results of their work involve provision of water supplies, treatment and prevention of disease, and provision of some experimental or demonstration ranches whose aim is to encourage better livestock management on the part of the Masai. European veterinary personnel with African assistants have been active in Western Masailand in both Kenya and Tanganyika, and they have exerted a very significant influence on the ecology of the area. As noted above their work has greatly aided the increase in the numbers of the Masai livestock, without showing any demonstrable improvement in the quality of the livestock, and with very demonstrable deterioration of the grazing land, especially in the vicinity of the water points.

The significant exceptions are the activities of the Tsetse Survey and Control Branch of the Kenya Department of Veterinary Services. In Narok District they have maintained two small field houses (one has since been removed), a field laboratory, and an experimental ranch. Their research has been aimed at learning the

19: Talbot E-4,5 (1956-1962)1964 FL12 Masai FL12

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232 ecology of the tsetse flies in order to effect their control without employing destructive game killing or land clearing schemes (Langridge, 1960, 1961). Within Western Masailand their work has largely consisted of careful research and controlled experimentation.

The damage to rangeland resulting from the activities of the other branches of the Veterinary Services are the natural result of a well intentioned, efficient, but narrow approach to the livestock problems of the Masai. Such effects are not limited to East Africa. There are many such examples in the western United States.

19: Talbot E-4,5 (1956-1962)1964 FL12 Masai FL12

*136 process.

The resting perches of these flies are on the under or shady side of rough barked trees or bushes. These habitats also are removed by hot [illegible]s. Thus, changing vegetation from woodland [illegible]ckets to a light, open bush will not necessarily [illegible]ll tsetse flies immediately but it will reduce the available fly habitats and may render it almost impossible for the flies to reproduce.

Complete removal of the flies might entail complete clearance of all brush, but since the effective vision of the flies is about two hundred yards, an opening about twice that distance across will stop *136 most flies. Livestock can be grazed relatively safely • 232 to within about two hundred yards of fly infested bush.

Where burning is frequent and fairly hot, the fly habitat is impaired. Early, light burns may have very little effect on the flies, and by allowing spread of bush, they may spread the fly habitat. Protection from burning allows spread and thickening of *136 bush and therefore expansion of fly habitat. The action of elephants pushing down trees and pulling off large limbs

21:Huxley Q, T-5 (no date) 1960 FL11 Luo
Kenya FL1
Masai FL12

good management on modern ranching lines will bring him in hard cash.

I saw the ranch mainly from the air. Lines of bush, cleared by bulldozers dragging giant chains between them, lie neatly along the contour like windrows in a hayfield. Soon the six or seven thousand acres that have been cleared will be fenced, and so managed that star-grass will cover them and steers fatten twice as quickly as they normally do. The snag, of course, is the Masai indifference towards cash.

Yet even here the seeds of change begin to germinate. There are schools now in all Masai centres, Masai students at Makerere, the start of a trickle of Masai teachers, doctors, administrators, vets. One has a Cambridge degree in geography, one is a Legislative Councillor. The shell of Masai indifference has been pricked.

The puncture so far is tiny, but time will enlarge it and one day, not so far away either, the whole shell may crack. Already a Masai parson, the Rev. Daudi Mokinyo, has fenced off 2,000 acres of communal grazing where he fattens steers bred from improved bulls, has a simple milking bail and makes ghee. Elsewhere, half a dozen other Masai have fenced in grazing land. When the railway took a pipeline off Mt. Kilimanjaro, they set up watering points for Masai cattle along its course, and in return one section of the tribe, the Il Kisongo, agreed to operate a pasture-management plan, financed by a grazing fee, which is acting as an entry-point for new ideas.

When these movements spread, as they seem bound to do, the doom of the game will be accomplished. For game cannot co-exist with modern pasture management. Unless the Masai come to see game as an asset of high value, it will go here, as it has on European farms, and for the same reasons: it will go down before the fence, the improved pasture and the need to keep the land free of disease.

VI

To admire pictures in the National Gallery, cathedrals of the Middle Ages or the antiquities of Greece is considered

[pp. 162-230 not processed]